

IN THE CLAIMS

1. (currently amended) A magnetically induced super resolution-type magneto-optical recording medium comprising, on a light-transmitting substrate, at least a recording layer for recording and retaining information therein, and a read-out layer for copying therein the information retained in said recording layer during reproduction of the information, wherein:

an exchange-coupling breaking layer is disposed between said recording layer and said read-out layer, a first surface of the exchange-coupling breaking layer being disposed in contact with the recording layer and a second surface of the exchange-coupling breaking layer opposite the first surface being disposed in contact with the read-out layer, and

said exchange-coupling breaking layer comprises a layer of a nitride of either one of GdFeCo or TbFeCo, and

said substrate is a land groove substrate wherein information can be written in at least one of groove areas and land areas of the substrate.

2. (currently amended) A magnetically induced super resolution-type magneto-optical recording medium comprising, on a light-transmitting substrate, at least a recording layer for recording and retaining information therein, a read-out layer for copying therein the information retained in said recording layer during reproduction of the information, and a read-out auxiliary layer disposed between the recording layer and the read-out layer and in contact with the recording layer, wherein:

an exchange-coupling breaking layer is disposed between said read-out auxiliary layer and said recording layer, a first surface of the exchange-coupling breaking layer being disposed in contact with the read-out auxiliary layer and a second surface of the exchange-coupling breaking layer opposite the first surface being disposed in contact with the read-out layer,

the auxiliary read-out layer comprises GdFe, and

said exchange-coupling breaking layer comprises a layer of a nitride of either one of GdFe or TbFeCo, and

said substrate is a land groove substrate wherein information can be written in at least one of groove areas and land areas of the substrate.

3. (original) The magneto-optical recording medium according to claim 1, wherein said exchange-coupling breaking layer has a thickness in a range of from a one-atom layer thickness to 100 Å.

4. (original) The magneto-optical recording medium according to claim 2, wherein said exchange-coupling breaking layer has a thickness in a range of from a one-atom layer thickness to 100 Å.

5. (withdrawn) A process for manufacturing a magnetically induced super resolution-type magneto-optical recording medium which comprises, on a light-transmitting substrate, at least a recording layer for recording and retaining information therein, and a read-out layer for copying therein the information retained in said recording layer during reproduction of the information, said process comprising the steps of:

forming said read-out layer;

forming, on said read-out layer, an exchange-coupling breaking layer comprising a layer of a nitride of GdFeCo by sputtering; and

forming said recording layer on said exchange-coupling breaking layer, wherein the step of forming said exchange-coupling breaking layer is conducted by, immediately before completion of said step for forming the read-out layer, introducing N₂ into a chamber used for forming said read-out layer so that a layer of a nitride of GdFeCo having a thickness of a one-atom layer thickness or more is formed in the chamber.

6. (withdrawn) A process for manufacturing a magnetically induced super resolution-type magneto-optical recording medium which comprises, on a light-transmitting substrate, at least a recording layer for recording and retaining information therein, and a read-out layer for copying therein the information retained in said recording layer during reproduction of the information, said process comprising the steps of:

forming said read-out layer;

forming, on said read-out layer, an exchange-coupling breaking layer comprising a layer of a nitride of TbFeCo by sputtering; and

forming said recording layer on said exchange-coupling breaking layer, wherein the step of forming said exchange-coupling breaking layer is conducted by, immediately before completion of said step for forming the read-out layer, introducing N₂ into a chamber used for forming said read-out layer so that a layer of a nitride of TbFeCo having a thickness of a one-atom layer thickness or more is formed in the chamber.

7. (withdrawn) A process for manufacturing a magnetically induced super resolution-type magneto-optical recording medium which comprises, on a light-transmitting substrate, at least a recording layer for recording and retaining information therein, a read-out layer for copying therein the information retained in said recording layer during reproduction of the information, and a read-out auxiliary layer, said process comprising the steps of:

forming said read-out layer;

forming said read-out auxiliary layer by sputtering;

forming, on said read-out auxiliary layer, an exchange-coupling breaking layer comprising a layer of a nitride of GdFe by sputtering; and

forming said recording layer on said exchange-coupling breaking layer, wherein the step of forming said exchange-coupling breaking layer is conducted by, immediately before completion of said step for forming the read-out auxiliary layer by sputtering, introducing N_2 into a chamber used for forming said read-out auxiliary layer so that a layer of a nitride of GdFe having a thickness of a one-atom layer thickness or more is formed in the chamber.

8. (withdrawn) A process for manufacturing a magnetically induced super resolution-type magneto-optical recording medium which comprises, on a light-transmitting substrate, at least a recording layer for recording and retaining information therein, a read-out layer for copying therein the information retained in said recording layer during reproduction of the information, and a read-out auxiliary layer, said process comprising the steps of:

forming said read-out layer;

forming said read-out auxiliary layer by sputtering;

forming, on said read-out auxiliary layer, an exchange-coupling breaking layer comprising a layer of a nitride of TbFeCo by sputtering; and

forming said recording layer on said exchange-coupling breaking layer, wherein the step of forming said exchange-coupling breaking layer is conducted by, immediately after start of said step for forming the recording layer by sputtering, introducing N_2 into a chamber used for forming said recording layer so that a layer of a nitride of TbFeCo having a thickness of a one-atom layer thickness or more is formed in the chamber.